APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,265	12/29/2000	Erhan Guven	TI-32149	7391

23494 7590 01/11/2005		EXAMINER
TEXAS INSTRUMENTS INCORPORATED		TSEGAYE, SABA
P O BOX 655474, M/S 3999	ART UNIT	PAPER NUMBER
DALLAS, TX 75265	2662	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _12 July 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-14_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-14_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Drawings

1.   Fig. 13 is objected to as failing to comply with 37 CFR 1.84(p)(5) because it does not include the following reference sign(s) mentioned in the description (page 21): **a computing device 34**. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the PSTN line** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the

drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

and informed of any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-11 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

In claim 1:

The phrase "a computing device connected to each of said first and second connecting

means" is vague. It is not clear how **a computing device** connected to each of the first and

second connecting means. Since the first connecting means connected to a first gateway and the

first gateway connected to a second gateway.

Line 5, the phrase "second connecting means" lacks antecedent basis.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1, 3-5, 11 and 12, are rejected under 35 U.S.C. 102(e) as being anticipated by

Nicol (US 6,757,367 B1) .

Regarding claims 1, 3 and 12, Nicol discloses a method and apparatus for measuring the

efficiency of transport of modem relay packets over a packet network (181) (see figure 12),

comprising: means for connecting to a first gateway (182a) of said modem relay connection;

means for connecting to a second gateway (182bc) of said modem relay connection

(calling/answer modem establishes a modem connection with calling/answer gateway. In

data relay mode, the packet data modem exchange provides demodulation and modulation

of data signals; for example see col. 27 lines 7-21 and lines 52- col. 28, line 28);

a computing device connected to each of said first and second connecting means, and for

running at least one terminal program for at least one of said gateways (gateways contain

programmable DSP software with memory at the core, network channel and telephony

interfaces, and a host residing in the DSP itself; col. 4 lines 54-77: also see figure 2);

for providing a reference modem data stream at a know throughput rate to at least one of

the gateways; for receiving a transported modem data stream from a second one of the gateways

after the reference modem data stream has passed through the gateways and the packet network;

and means for determining the transport efficiency of the packet network by comparison of the

known throughput rate of the reference modem data stream to the determined throughput rate of

the received modem data stream (**each network gateway forwards a connection rate**

indication to the other gateway. Each gateway compares the far end rate to the rate

transmitted by each gateway col. 33, lines 54-64).

Regarding claim 4 with the features of parent claim 1 addressed above Nicol discloses

where the throughput efficiency is measured after said gateways have negotiated appropriate

protocols and have established a steady-state connection over said packet network (**Nicol**

discloses that before transmission of data signals across the packet based network, the

connection between the two modems must first be negotiated through a sequence. A rate

negotiator synchronizes the connection rates at the network gateways. Based on the

exchanged rate codes the rate negotiator establishes a common data rated between the

calling and answering modems; col. 28 lines 50-67).

Regarding claim 5 with the features of parent claim 1 addressed above Nicol discloses

where the modem relay connection is established across a network (Nicol discloses that the

modem relay mode enables transmission of data signals over a packet based system; col. 7 lines

1-6).

Regarding claim 11 with the features of parent claim 1 addressed above Nicol discloses

where the determination of the transport efficiency includes at least two iterative repetitions of

said provision of said reference modem data stream and said reception of said transported

modem data stream and said comparison of said known throughput rate of said reference modem

data stream to said determined throughput rate of said received modem data stream', and wherein

said determination is based upon the average efficiency determined after a series of said

iterations (**each network gateway forwards a connection rate indication to the other**

gateway. Each gateway compares the far end rate to the rate transmitted by each gateway.

A modulation parameter (MP) sequence is utilized to exchange information pertaining to

data rate capability. The MP sequence can be exchanged end to end to achieve data rate

with out rate re-negotiation col. 33, lines 31-column 34, line 27).

Claim Rejections - 35 USC § 103

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol in view of

Leiper (US 6,1 12,234).

Nicol discloses all the claim limitations as stated above. Nicol fails to disclose where the

terminal program runs a Z-modem protocol for generating the modem data stream at a known

throughput rate.

Leiper discloses the use of the z-modem protocol to transmit data packets (col. 5 lines 25-

30).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Nicol's apparatus to utilize the z-modem protocol for generating

the modem data stream at a known throughput rate, as taught by Leiper. The motivation is that a

robust transmission protocol that has many established features that are desirable for use in the

present invention, such as built-in error checking features, and the ability to request and monitor

retransmission of bad blocks of data. The Z-modem protocol also has the ability to begin

transmission of a new file before completion of a prior file transmission, and to continue an

interrupted file transfer where the transfer left off. Although the Z-modem protocol has

historically been associated only with dial-up data transfer (as in bulletin board systems), it can

be applied in network or wide area network system by assigning each computer in the network

an IP address and providing for image transfer from a server to a workstation by a TCP to TCP

port communication, as shown by Leiper on column 4, lines 15-30.

8.   Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol in

view of Anandakumar et al (US 6,574,213) hereafter Anandakumar.

        Regarding claims 6-10 Li discloses the use of modem relay transmission (see figure 12

and col. 26, line 54-col. 27, line 21),

        However, Nicol fails to expressly disclose where the modem relay connection is

established across a network simulator.

        Anandakumar teaches the use of a network simulator to determine transmission

performance based on packet loss and packet delay (FIG. 12 illustrates packet loss simulation.

The model simulates to determine the packet loss rate L that results from various combinations

of source rate, time diversity and path diversity; col. 34 lines 28-43; FIG. 15 shows voice packets

entering packet encapsulation unit 1571 where they are de-packetized and passed to a Packet

Playout Control Unit 1581. Control Unit 1581 has software that implements process steps for

delay handling, delay jitter handling and lost packet compensation. Incoming RTCP packets

contain lost packet fraction information from a destination across the network external to

integrated circuit 1511: col. 36 lines 5-14; Also, further embodiments use diversity adaptation

alone or combined with source rate adaptation with the following advantages for real-time

traffic: overcome distributed congestion handle heterogeneous traffics overcome packet losses

due to bit errors; col. 6 lines 26-43).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Nicol's modem relay packet network to utilize the quality of

service setup in determining transmission efficiency and packet loss rates, as shown by the

PSTN-packet network system of Anandakumar. The motivation is an obvious need for a system

to control packet loss, jitter, and delays. This is necessary in a network that bridges circuit switch

data with packet switched data as explained by Anandakumar on column 1 lines 49-67 and

column 2 lines 1-9.

9.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol in view of

Bechtolsheim et al (US 6,515,963) hereafter Bechtolsheim.

Nicol discloses determining the average rate for a given protocol with given network

conditions (column 33, line 54-column 34, line 27).

Nicol fails to disclose where the steps of collecting a group of data representative of the

network throughput efficiency under a number of network conditions and corresponding to a

plurality of known file transfer protocols; determining the network throughput efficiency values

corresponding to a plurality of file transfer protocols and determining the average rate for a given

protocol with given network conditions; generating a representation indicative of the relationship

between modem relay system design and packet transport efficiency across said network.

Bechtolsheim teaches a dynamic buffer management scheme for a data communications

device that uses the known throughput of different types of protocols to assess a scenario (**In**

queue-based schemes, incoming flows are classified according to their actual priority, as

determined by the receiving router and assigned accordingly to output queues within the

router. High priority flows, such as time-sensitive voice traffic, are placed in a queue that is

read out more often. Low priority flows, such as file transfer protocol (FTP) or hypertext

transfer protocol (HUP) flows, are placed in queues that are read out of the router at a

slower rate; col. 2 lines 12-26).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Nicol's apparatus to measure the throughput values of multiple

transfer protocols and giving representation of the protocol based on the throughput value, as

taught by Bechtolsheim. The motivation is a more accurate and efficient system that can use

numerous schemes, used to control the buffering and enqueuing methods to achieve a measure of

throughput balance or fairness among flows, thus managing router/switch bandwidth as

efficiently as possible, as shown by Bechtolsheim on column 2 lines 15-26.

10.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol in view of

Fayad et al. (US 6,757,250) hereafter Fayad.

Nicol discloses all the claim limitations as stated above. Further, Nicol discloses, in Fig

12, a modem relay system comprising a first gateway, connected locally to a first modem over a

PSTN line, and second gateway, connected through a packet network to the first gateway.

However Nicol does not disclose a second gateway connected locally to the second modem

through a PSTN line.

Fayad teaches a communication system demodulates data coming from a first modem

through a PSTN line, transports the demodulated in packets between the two gateways and

remodulates the data before delivering it to a second modem through a PSTN line.

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Nicol's apparatus to connect the second gateway to the second

modem through a PSTN line, as thought by Fayad. One ordinary skill in the art would be

motivated to do this in order to use packet networks to transport data traditionally carried over

circuit switched networks.

Response to Arguments

11.   Applicant's arguments with respect to claims 1-14 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The

examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
January 8, 2005

JOHN PEZZLO
PRIMARY EXAMINER